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Ecology of Dual Careers Work Package 1 Report



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Executive Summary

This report provides a summary of work package 1 which covers aim 1 of the Ecology of Dual Career ERASMUS+ project - to identify and classify difference types of Dual Career Development Environments (DCDEs) across Europe and define criteria of their effectiveness and efficiency.

To identify and classify different types of DCDEs, the project team used interviews with national level stakeholders and explored documentation available (e.g., websites) on the existing DCDEs in participating countries. Data were then analysed to allow identification of the different types of DCDEs which exist across Europe and highlight some of the key features of each environment. After identifying categories and sub-categories of DCDEs, we asked dual career service providers to fill in a short questionnaire asking them whether or not they evaluate the effectiveness and efficiency of their environment and, if they do, what criteria they use to do this. We also asked dual career service providers to identify whether or not they could recommend criteria, more generally, for evaluating DCDE effectiveness and efficiency. A draft list of the criteria of DCDE effectiveness and efficiency, based upon these questionnaires, was then developed by the project team and was then subject to review and revision via focus groups with key stakeholders and academic and expert panel discussions before a final list was produced.

Results highlight that -

- There are 8 types of DCDEs that support dual career provision across Europe, including sports friendly schools, elite sport schools / colleges, professional and / or private club programs, sport friendly universities, combined dual career systems, national sports programs, defense forces programs, and players union programs.
- These DCDEs support dual career athletes at various stages of their development including through school, university, and in employment.
- When evaluating effectiveness, dual career service providers consider a number of areas, including athlete and support staff perceptions of dual career effectiveness; athlete wellbeing, academic achievement, sporting achievements, and resources and skills; program flexibility; dropout rates; and facilities and services provided.



- When evaluating efficiency, dual career service providers consider the ability of key stakeholders to provide resources efficiently, the communication between stakeholders to ensure continuous and efficient support, the policies and procedures in place to help resolve common problems experienced in the dual career system, and a number of individual and service specific measures of efficiency as determined by the support being provided.

The current report provides a detailed outline of the background, research aims and questions, the methods and approach taken, and the results as outlined in this executive summary.

Introduction and Background

Over the past 30 years, there has been an increase in the focus of research which has looked to understand the development pathway for athletes. This literature (e.g., Henriksen, Stambulova, & Roessler, 2011; Morris, Tod, & Eubank, 2016; Torregrosa, Ramis, Pallarés, Azocar & Selva, 2015) has identified that in order to become successful, elite athletes need to spend a significant amount of time investing in their sport, potentially making sacrifices in other spheres of their lives. While there are benefits to making some sacrifices (e.g., potential elite performance), research has also identified that there are a number of pitfalls to this. For example, previous literature (e.g., Park, Lavalley, & Tod, 2013) has identified that athletes may suffer from identity foreclosure (i.e., commitment to an identity before exploring other options, such as career exploration, talent development, or joining social clubs or interest groups), deterioration of relationships with family members, burnout, and difficulties planning ones future when preparing for retirement from sport (Cecić Erpič, Wylleman, & Zupančič, 2004; Sorkkila, Aunola & Ryba, 2017). Athletes may suffer negative consequences as a result of these challenges, such as poor mental health, difficult adjustment to life outside of their sport, and potential negative behaviors (e.g., drug and alcohol abuse). In order to try and prevent such difficulties and support athletic and personal development, a number of initiatives have been implemented, including facilitation and development of support programs for dual career athletes. According to the recent ‘Dual Career Development and Transitions’ special issue in *Psychology of Sport and Exercise* and the papers contained within (e.g., Debois, Ledon & Wylleman, 2015; Tekavc, Wylleman, & Cecić Erpič, 2015) and guidelines on dual career provision (e.g., EU Guidelines on Dual Careers of Athletes, 2012) athletes who take part in a dual career (i.e., combining elite sport competition with education or work) may receive many benefits of doing so, including a more balanced lifestyle, enhanced employment prospects, and better career/retirement planning.

Research (e.g., Stambulova & Ryba, 2013; Wylleman & Reints, 2010), however, has also indicated that this combination of high-level sport and education or work is one of the main challenges facing talented and elite athletes in the Member States in Europe because it involves athletes balancing a number of domains of their life and needing to give appropriate attention to each of these areas to be successful. To conceptualize further, Wylleman, Reints and De

Knop (2013) indicated that the dual career ‘education and sport’ pathway is not uniform and consistent, but actually consists of a series of different stages and transitions (see Figure 1). Within each developmental stage and transition, athletes will experience several demands and challenges that may hinder athletic and personal development (Morris, Tod, & Oliver, 2016). From a holistic perspective, research has indicated that dual career athletes may not only be faced with challenges at academic and athletic level, but throughout their dual career, including at psychological, psychosocial, and financial levels (Wylleman et al., 2013).

Considering these potential challenges of undertaking a dual career, greater academic focus on understanding this process has aimed at helping to facilitate and develop better dual career provision for high-level athletes who are combining their career with education or a vocation (e.g., Baron-Thiene & Alfermann, 2015; Sorkkila et al., 2017). Over the past 10 years there has also been a significant focus by the European Union on supporting and developing athletes who are considered to be undertaking a dual career. This has been emphasized by the development and implementation of European Union (EU) Guidelines on Dual Careers of Athletes (2012), which highlighted the need for cross collaboration and an inter-ministerial approach to supporting talented dual career athletes across Europe. In addition, there have been a number of ERASMUS+ projects (e.g., Gold in Education and Elite Sport, Study on Minimum Quality Requirements for Dual Career Services, and Be a Winner in Elite Sport and Employment Before and After Athletic Retirement) which have focused on understanding dual career athletes’ experiences of combining their sport with their academic / vocational pursuits.

Although providing a solid basis to study dual careers, previous and current ERASMUS projects and current research in the area of dual career athletes has primarily focused on understanding, promoting, and developing the key individual competencies (i.e., knowledge, skills, experience, and attitudes) required by dual career athletes to succeed in both their education / vocation and (post-)athletic career. It has been suggested, via the holistic ecological approach (HEA) to talent development (Henriksen & Stambulova, 2017; Henriksen et al., 2011), that the environment athletes are in can also have an effect on their development. The links and dialogue taking place within these environments can be fundamental to athletic development (Henriksen et al., 2011). Research (e.g., Henriksen, Stambulova, & Roessler,

2010) has also suggests that some talent development environments are better than others in helping the athletes negotiate the demands of an athletic career and manage the transitions they encounter, providing appropriate cultures, social support, and facilities to aid athletes as they develop. This research indicates that, independent of athletes having the pre-requisite key competencies to be successful, they may encounter challenges with the environment which they cannot control. Indeed, it has been highlighted that coaches and practitioners working with elite athletes need to be sensitive to and analyze the overall strategies they use to develop talent, and not just focus on individual athletes and the development of their key skills (Larsen, Alfermann, Henriksen, & Christensen, 2013). As a result, to advance current knowledge and supplement the work which has already been carried out, the mission of the current Ecology of Dual Career project is to (1) develop a comprehensive understanding of the DCDEs across Europe, and (2) provide guidelines for the development and optimization of DCDEs supporting talented and elite athletes' in their pursuit of sporting and academic excellence.

To achieve the Project mission, there are four aims:

1. To identify and classify different types of DCDEs across Europe and define criteria of their effectiveness and efficiency.
2. To identify factors contributing to the effectiveness and efficiency of DCDEs through exploration of selected DCDEs in participating countries by exploration of their structure, dual career arrangements, organizational culture, and the role of dual career service providers.
3. To develop and test a DCDE monitoring tool (DCDEM) aimed at assisting stakeholders when checking the current status of their DCDE in relation to their structure, dual career arrangements, organizational culture, and the role of dual career service providers and helping them develop strategies to optimize their environments.
4. To disseminate the project findings and provide implementation guidelines to national governing bodies, DCDE stakeholders, dual career service providers, and dual career researchers on the development and optimization of the DCDEs.

This report provides a summary of work package 1 which covers aim 1 of current project - to identify and classify different types of DCDEs across Europe and define criteria of their



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effectiveness and efficiency. The report provides a summary of the aims of the work package, outlines the approach taken to data collection and analysis, and highlights the key findings to emerge from the data. For the purpose of work package 1, the working definition of DCDE was - DCDE is a purposefully developed system that aims to facilitate athletes' investment in combining their competitive sporting career with education or work.

Dual Career Development Environment Categorization Outline and Methods

To identify and categorize DCDEs we followed a stepwise process consisting of: document analysis, national and international stakeholder interviews, and subsequent researcher and expert discussions. The seven countries across Europe (Belgium, Denmark, Finland, Slovenia, Spain, Sweden, and United Kingdom) involved in the Ecology of Dual Career project were involved in this part of work package 1 to ensure that there was appropriate representation of the different types of environments present across Europe.

A researcher from each country first gathered background information about the national approach to dual career and the various environments in which dual careers take place. Data were sourced, first, from publicly available documents of national elite sports agencies or environments and their websites, and, second, from academic papers that described dual career support programs. The documents were thoroughly read, used to produce summaries of the different types of environments each country had which facilitated dual careers, and used to develop further points of discussion for interviews.

Each partner nation then conducted between 3 and 5 interviews, which lasted between 20mins to 60mins, focused on the role and function of identified DCDEs and to identify additional environments not recognized in the documentation analysis carried out previously. These accounts were crucial to understanding the details of how each environment functioned within the national context. Each participant ($n = 31$) who took part in the interviews were purposefully selected because they held an understanding of one or more DCDE. This understanding came from their practical role within a sports agency or federation, an educational or vocational institution, or a career program designed for athletes. The participants had worked within the dual career area for between 5 and 15 years and all had personal experience of more than one DCDE. These individuals were able to share their insight into the function and characteristics of different DCDEs and, therefore, into the relevance of the classification system and taxonomy.

The results of the document analysis and interviews were summarized in a standardized table which enabled comparisons between environments. This cross-case analysis was carried out to allow identification of the overarching types and key features of DCDEs present across Europe.



Each of the overarching dual career environments was then positioned along a timeline according to the athlete career stage (Wylleman, Alfermann, & Lavellee, 2004) they primarily targeted.

Finally, the developed classification system and European taxonomy then underwent validation via further interviews with dual career experts across Europe and via a meeting with the full research and expert team to determine comprehension and relevance, and to identify any additions or alterations needed to initial classifications. Based upon the interviews and the meeting with the research and expert team, final adjustments were made to the classification of DCDEs before dissemination.

Dual Career Development Environment Categorization Type Results

The below is an outline of the different types (n = 8) of DCDEs as supporting dual career provision across Europe -

DCDE Type	DCDE Definition	European Examples
Sports Friendly Schools	<ul style="list-style-type: none"> • These regional educational institutions permit elite sport or align themselves with elite sport to provide academic flexibility for athletes to train and compete in their own sporting environment. • They are situated in upper general and vocational secondary education (ISCED level 2-5). • The support provisions between institutions in the same country are not standardized because each is able to decide the provision of support they give to each athlete for themselves – they can, however, include similar features (e.g., sports facilities and sport science provision). • Although academic flexibility is provided, there are unlikely to be any formal arrangements (and therefore, little to no communication) between the school and sporting federations 	<ul style="list-style-type: none"> • United Kingdom – Millfield School and Hartpury College, Talented Athlete Scholarship Scheme Accredited Schools and Colleges including Loughborough College and Stoke-on-Trent College • Sweden – Sandagymnasiet • Finland – Hämeenlinnan Lyseon Lukio, Jyväskylän Normaalikoulu, Pihtiputaan Lukio

	<p>(e.g., Swedish NIUs communicate with sports clubs but not directly with sport federations).</p>	
<p>Elite Sports Schools / Colleges</p>	<ul style="list-style-type: none"> • These educational institutions are purposefully developed for elite athletes who wish to combine their athletic and academic careers – they do this by providing a combination of sport and academic support (e.g., elite coaching and an adapted timetable for studies). • They are situated in upper and lower general and vocational secondary education (ISCED level 2-5). • The support provisions between institutions in the same country are not standardized, but can include similar features (e.g., sports facilities and sport science provision). • Elite sports schools / colleges have formal communication with sport federations (e.g., both bodies will have input into the selection of athletes who will attend the school / college) and the school will often receive funding from the body they link with. 	<ul style="list-style-type: none"> • United Kingdom – Scottish Football Association Performance Schools • Belgium – Stedelijk Lyceum Topsport • Sweden – Gudlav Bilderskolan • Denmark – Marseiliesborg School • Finland – Kilpisen Koulu, Sotkamon Lukio, Jyväskylä Koulutuskuntayhtymä Gradia

<p>Professional and / or Private Club Programs</p>	<ul style="list-style-type: none"> • These professional and / or private sports clubs provide support for educational and / or vocational pursuits by providing academic flexibility and study support within a sporting environment. • These programs are often situated in upper and lower school level education and junior / youth level sport (ISCED level 2-5). • The support provisions between institutions in the same country are not standardized, but can include similar features (e.g., sports facilities and sport science provision). • The links to education institutions may vary from country to country and within a country (e.g., Villarreal works in partnership with educational institutions to receive educational support, but Club Natació Sabadell provides education on site through their own School) • The links to governing bodies may also vary from country to country and within a country (e.g., United Kingdom football 	<ul style="list-style-type: none"> • United Kingdom – Derby County and Everton Football Clubs, Sale Sharks Rugby Football Club • Spain – Villarreal and Barcelona Football Clubs
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	<p>clubs are not necessarily part of the talent pathway for football, but the sporting federation still holds them to an expected minimum standard).</p>	
<p>Sport Friendly Universities</p>	<ul style="list-style-type: none"> • These regional educational institutions permit elite sport or align themselves with elite sport to provide academic flexibility for athletes to train and compete in their own sporting environment. • They are situated in higher education, often at degree or master’s level (ISCED level 6-7). • The support provisions between institutions in the same country are not standardized because each is able to decide the provision of support they give to each athlete – they can, however, include similar features (e.g., sports facilities and sport science provision). • Although academic flexibility is provided, there are unlikely to be any formal arrangements (and therefore, little to no communication) between the university and sporting federations (e.g., Team Denmark is not involved in 	<ul style="list-style-type: none"> • Belgium – Vrije Universiteit Brussel and Ghent University • United Kingdom – Team Bath and Loughborough University, Winning Students Program • Sweden – Karlstad University • Spain – TutorEsport Universitat, Autònoma de Barcelona, and Universitat Oberta de Catalunya

	<p>facilitating links between education and sporting environments).</p>	
<p>Combined Dual Career System</p>	<ul style="list-style-type: none"> • These purposefully developed, national government-funded systems, provide a combined sport and education pathway for dual careers that are delivered in educational institutions. • These systems cover all levels of education (ISCED level 2-7) across Europe. • The support provisions between institutions in the same country are standardized or there is a minimum level of support provided across institutions and for all athletes (e.g., The Talented Athlete Scholarship Scheme has a base level of support each university has to meet). • There are formal arrangements and communication between education and sport (e.g., the Finnish National Olympic Committee oversees communication between education and sport bodies, ensuring appropriate support and flexibility is provided to athletes). 	<ul style="list-style-type: none"> • United Kingdom – The Talented Athlete Scholarship Scheme • Denmark – Team Denmark Universities • Finland – National Olympic Committee Schools, Universities, Polytechnics, and Sport Institutions • Sweden – National Sport Universities • Spain – Public Sport Systems, Sport Technification Centre, and High Performance Centre

<p>National Sports Programs</p>	<ul style="list-style-type: none"> • These national sport federation-based systems provide support for educational and / or vocational pursuits, by providing support for academic flexibility and study within a sporting environment. • These systems often cover all levels of education (ISCED level 2-7) across Europe. • The support provisions between national sport programs in the same country are not standardized, but can include similar features (e.g., performance lifestyle support) - within the individual national sports programs themselves, however, provision is standardized. • Although support for the dual career is provided, the focus of the delivery in the environment is primarily on sporting pursuits (e.g., The English Institute of Sport will assist athletes in their pursuit of academic flexibility and support them by providing performance lifestyle advice but will not formally deliver education programs). 	<ul style="list-style-type: none"> • United Kingdom – Sport Scotland Institute of Sport, English Institute of Sport, and Sport Wales • Finland – Jyväskylän Urheiluakatemia, Pääkaupunkiseudun Urheiluakatemia Urhea, Vuokatti-Ruka Urheiluakatemia
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<p>Defense Forces Programs</p>	<ul style="list-style-type: none"> • Work-based defense force programs providing support for athletes combining vocation and sporting excellence by offering vocational flexibility to pursue sport opportunities. • These systems are in place at vocational levels. • The support provisions in the same country are not standardized, but can include similar features (e.g., performance lifestyle support, physiological support, and nutritional support). • Unlikely to have formal arrangements (and therefore, little to no communication) between the work environment and sporting federations (e.g., the Finnish defense force program is not necessarily part of the sporting talent pathway but does provide flexibility to allow the athlete to pursue elite sport performance). 	<ul style="list-style-type: none"> • United Kingdom – The Talented Athlete Scholarship Scheme Army Elite Sports Program • Finland – The Finnish Defense Forces
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Players Programs	Union	
	<ul style="list-style-type: none"> • Players unions (which exist to protect the working rights of athletes within their sport) provide guidance about educational provision and vocational courses for registered members. • These systems are in place at all educational and vocational levels. • The support provisions between unions in the same country are not standardized because they are able to decide the provision of support they give to each athlete – they can, however, include similar features (e.g., advice and support for determining suitable education opportunities). • Unlikely to have formal arrangements (and therefore, little to no communication) between the work environment and sporting federations (e.g., the Professional Footballers Association is completely independent from the professional football governing bodies in the United Kingdom). 	<ul style="list-style-type: none"> • United Kingdom – The Professional Footballers Association and The Rugby Players Association • Finland – Jalkapallon Pelaajayhdistys, Study4Player, Job4Player, Suomen Jääkiekkoliijat Ry



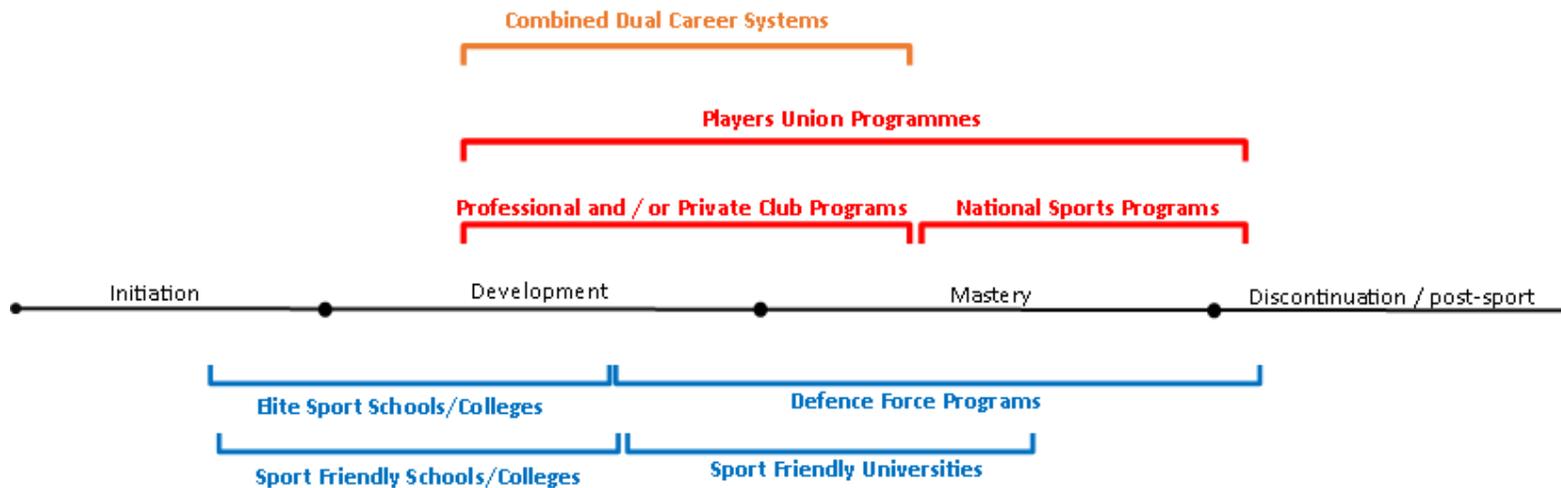
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*For information on International Standard Classification of Education (ISCED) levels across Europe, please refer to European Commission/EACEA/Eurydice (2016). *The Structure of the European Education Systems 2016/17: Schematic Diagrams*. Eurydice Facts and Figures. Luxembourg: Publications Office of the European Union.

Dual Career Development Environment Categorization Athletic Career Stage Results

The below figure represents all the DCDE categories across Europe and the athletic stage which the environments primarily targets on Wylleman, Alfermann, & Lavellee’s (2004) model of career development, and identifies the type of system that each of the identified environments are -



Key
Combined Dual Career System
Sport Led System
Education/Vocation Led System

Criteria of Effectiveness and Efficiency Outline and Methods

To identify criteria of effectiveness and efficiency, we followed a stepwise process consisting of: questionnaire completion, focus group discussion, and subsequent researcher and expert discussions. The seven countries across Europe (Belgium, Denmark, Finland, Slovenia, Spain, Sweden, and United Kingdom) involved in the Ecology of Dual Career project took part to ensure an understanding of criteria of effectiveness and efficiency was gained from a variety of different countries across Europe.

Initially, seven researchers recruited dual career service providers from across seven European countries - Belgium, Denmark, Finland, Slovenia, Spain, Sweden, and United Kingdom - and asked these service providers to fill in a short, open-ended questionnaire to determine if they evaluate the effectiveness (defined as, the degree to which something is successful in producing a desired result) and efficiency (defined as, accomplishment of or ability to accomplish a job with a minimum expenditure of time and effort) of their environment and, if they do, what criteria they used to do this. Participants were also asked to identify any additional criteria, which they do not use but are aiming towards or feel they should be using. Dual career service providers were purposefully selected because they held an understanding of one or more DCDE due to their role within a dual career service, a sports agency or federation, an educational or vocational institution, or a career program designed for athletes. The aim of the questionnaire was to collect a broad understanding of the criteria DCDEs use. Hence, the researchers focused on distributing the questionnaire to different types of DCDE. Questionnaires were either completed by the participant as a self-report measure or conducted as a structured telephone interview.

A cross-case analysis then took place, where all of the results across Europe were evaluated and the results of these questionnaires were then drawn together to make a draft list of criteria for effectiveness and efficiency. The draft list of criteria was further developed through online discussion between the wider project team to ensure it maintained relevance to each of the countries.

This draft list of the criteria then became the subject of seven national focus group discussions. Each partner country hosted a focus group with identified key stakeholders or individuals who



would hold knowledge of the national dual career system with the aim of validating the criteria of effectiveness and efficiency list. Focus groups were conducted based upon the recommendations of Krueger and Casey (2015), with participants asked to comment and evaluate the draft list of criteria and asked to comment on anything they think should also be added to these criteria. From these focus groups and a subsequent meeting with the research and expert partners, the expert group consolidated the findings from the different countries and created an overall set of criteria of the DCDEs effectiveness and efficiency.

Criteria of Effectiveness Results

The below is an outline of criteria of effectiveness as identified by organizations delivering dual career provision across Europe. In general, all DCDEs had some measures of effectiveness. Organizations' criteria of effectiveness could include -

Perceptions of Dual Career

- Dual career athletes' overall satisfaction with their dual career, including their sport, vocation, education, flexibility provision, and living situation.
- Dual career athletes' perceptions of demands for their time and overall workload in education or vocation and training.
- Stakeholders perception of how successful student athletes are at managing their whole dual career, including their school, sport, physical training, living situation, social, health etc.
- Dual career athletes' satisfaction with their support network and social environment, including satisfaction with support for academic and vocational endeavors, sporting performances etc.
- Dual career athletes' view of their dual career competences and their perception of the institutions' ability to help and support these.
- Perceptions of the value of dual careers from different stakeholders (e.g., coaches understanding and valuing education).
- How the environment is recognized on an international scale (their international reputation).

Wellbeing

- Mental wellbeing and physical health status of dual career athletes, including injury and illness prevalence.
- The amount and quality of sleep and recovery time acquired by dual career athletes.
- The appropriateness of diet in achieving nutritional balance relative to individual situation.

- Levels of burnout and / or stress experienced by the dual career athletes which permits individuals in achieving results.

Academic Achievement

- Pass or fail rate for dual career athletes.
- Grades achieved in course(s) taken.
- Potential vs. absolute academic achievements (e.g., if they had the potential to achieve high grades but end up achieving moderate grades).
- Athletes' study results in relation to non-athletes and the school average.
- Individual and personal goal attainment.
- Absence from educational pursuits.

Sport Achievement

- Dual career athlete success in competition relative to their sport.
- Progression and development of sport performance in training, including absence from sporting pursuits.
- Number of players who play junior national events.
- Number of players who compete at the highest level in their sport.
- Number of players who are selected and compete for the senior national team.
- Starting level of performance (e.g., at the start of a dual career) vs. final level of performance (e.g., at the end of a dual career).
- The number of players who go on to compete in sport as a long-term profession.
- Participation in sport after graduation and the level of competition achieved (1-10 year follow-up).
- Potential vs. absolute sporting achievements (e.g., if they had the potential to achieve international performance but achieved moderate success).
- Individual and personal goal attainment.

Athlete Resources and Skills

- Individuals' possession of key dual career and transferrable skills and competencies, such as effective study skills, athletic skill development, career planning, communication skills, teamwork and leadership skills, and dual career management.
- Ability and appropriate skills to cope with injury or transition.
- Motivation levels of dual career athletes to compete in sport and achieve academic or vocational success.
- Athletes' readiness for and awareness of the next stage of a dual career and post-dual career transitions and ventures.
- Dual career athletes' ability to plan for competitions appropriately (e.g., plan travel to and from events).
- Dual career athletes' ability to budget appropriately.
- Employability of the dual career athlete in their post-sport careers.
- The ability of the athlete to make informed career decisions about their dual career and their post-sport careers.

Program Flexibility

- Number of individualized study and sporting plans that are successful.
- Accessibility to additional flexibility during exam and competition periods.
- Accessibility to study support tools (e.g., distance learning).

Dropout from Dual Career

- Dropout frequency from sport or studies.
- Number of student-athletes that continue with a dual career after high school and / or after higher education.
- Rates of positive (e.g., achievement of positive psychological wellbeing after dropout or moving to professional full-time sport) vs. negative (e.g., experiencing psychological distress or being released from sport) dropout.

Facilities and Service Provision

- Access to appropriate training facilities (e.g., within walking distance).



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- Access to appropriate training partners.
- Access to, competencies of, and effectiveness of appropriate service providers including teachers, coaches, sport psychologist, physiotherapists, masseur, high performance team etc.
- Appropriateness of communication between athletes, parents, and service providers which ensures all parties are aware of the roles, required values, and responsibilities of each other.

Criteria of Efficiency Results

The below is an outline of criteria of efficiency as identified by organizations delivering dual career provision across Europe. In general, DCDEs did not measure efficiency as robustly as they measured effectiveness. Additionally, the measurements of efficiency they did report were often largely non-formal and subjective in nature. Organizations can use a number of criteria to determine efficiency including -

Resources

- The ability of an environment to stay within a particular budget, whilst obtaining the desired outcomes.
- The ability of an environment to identify when resources are wasted (e.g., providing services which are not being utilized).
- Providing support to the maximum number of athletes possible.

Communication

- Communication of support given by each service provision to ensure there is no gaps in support.
- Distribution of roles for each service provision to ensure each service is adding value and support is not being repeated (e.g., lifestyle support and nutrition support giving advice on healthy diet).
- Time taken to get in contact with the appropriate member of staff or to organize a meeting in person with a member of staff.

Policies and Procedures

- Putting in place policies and procedures for common practices, problems or situations to be solved with minimal time and resources.

Individual Efficiency

- Individual dual career athletes' efficiency in time spent studying or on athletic pursuits compared to their result of goal attainment in these areas.



- Physical distance between education and training environments (e.g., distance between halls/arena, gyms, stadium, education institution).
- Individual staff members' efficiency in the time spent on a task compared with their results of goal attainment.
- Appropriate level of training for staff to deliver the required support.
- The number of athletes that complete their education within the expected time frame.

Service Specific Efficiency Considerations

- Physiotherapy - reducing the money spent while increasing the number of athletes treated.
- Performance lifestyle - increasing athlete engagement with workshops.
- Academic support - Academic support, including speed of processing requests for additional flexibility.

Conclusion

This report has provided a summary of work package 1 which covers aim 1 of the Ecology of Dual Career ERASMUS+ project - to identify and classify different types of DCDEs across Europe and define criteria of their effectiveness and efficiency. The report provides a summary of the aims of the work package, outlines the approach taken to data collection and analysis, and highlights the key findings to emerge from the data. Specifically, the report highlights that

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- There are 8 types of DCDEs that support dual career provision across Europe, including sports friendly schools, elite sport schools / colleges, professional and / or private club programs, sport friendly universities, combined dual career systems, national sports programs, defense forces programs, and players union programs.
- These DCDEs support dual career athletes at various stages of their development including through school, university, and in employment.
- When evaluating effectiveness, dual career service providers consider a number of areas, including athlete and support staff perceptions of dual career effectiveness; athlete wellbeing, academic achievement, sporting achievements, and resources and skills; program flexibility; dropout rates; and facilities and services provided.
- When evaluating efficiency, dual career service providers consider the ability of key stakeholders to provide resources efficiently, the communication between stakeholders to ensure continuous and efficient support, the policies and procedures in place to help resolve common problems experienced in the dual career system, and a number of individual and service specific measures of efficiency as determined by the support being provided.

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